

**AMENDMENTS TO THE SPECIFICATION:**

*Please delete the paragraph on page 4, line 15 to page 5, line 21 and replace it with the following paragraph:*

Also, attempts have been being made to interpret the stereostructure of a nitrile hydratase, and the interpretation results have been disclosed under PDB ID NOs: 1AHJ, 2AHJ and 1IRE. It is clear now that the enzyme comprises a dimer having the  $\alpha$ -subunit and the  $\beta$ -subunit which are in association as the fundamental structural unit, and the dimers are further associated to form tetramers, octamers or dodecamers (depending on the biological species of origin) in order to express the activity. Further, the region or structure forming the active center has been identified, and it is known that the active center is not at an exposed position on the external side of the enzyme where direct contact is made with the reaction solvent, but at a position where it looks like being embedded inside the enzyme. Also known is the stereostructure in which a metal atom that is essential for expression of the activity (cobalt atom or iron atom, depending on the biological species of origin) is coordinated to the active center, and it has been disclosed that a cysteine residue in the amino acid sequence that constitutes the region forming the active center undergoes oxidation after transcription, as a phenomenon associated with the coordination of a metal atom. Specifically, a region represented by the sequence  $X_1CXLC_1SC_2X_2X_3X_4X_5$  (**SEQ ID NO: 142**) (wherein, C corresponds to cysteine, X to serine or threonine, L to leucine,  $C_1$  to cysteine sulfinic acid (cysteine sulfinic acid·3-sulfinoalanine), S to serine, and  $C_2$  to cysteine sulfenic acid (cysteine sulfenic acid·S-hydroxy-cysteine); and  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$  and  $X_5$  represent arbitrary amino acid, respectively) in the amino acid sequence of the  $\alpha$ -subunit is known as the region

responsible for the coordination of the metal atom to the active center (see Non-patent Documents 2 to 4).

*Please delete the paragraph on page 23, line 21 to page 24, line 3 and replace it with the following paragraph:*

[G] a polypeptide containing the region as represented by the amino acid sequence  $X_1CXLC_1SC_2X_2X_3X_4X_5$  (**SEQ ID NO: 142**) (wherein C corresponds to cysteine, X to serine or threonine, L to leucine,  $C_1$  to cysteine sulfinic acid (cysteine sulfinic acid·3-sulfinoalanine), S to serine, and  $C_2$  to cysteine sulfenic acid (cysteine sulfenic acid·S-hydroxy-cysteine); and  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$  and  $X_5$  represent arbitrary amino acid, respectively);

*Please delete the paragraph on page 24, lines 8-10 and replace it with the following paragraph:*

[15] the method for modification according to any one of [12] to [14], wherein bonding with a metal atom is located in the region represented by  $X_1CXLC_1SC_2X_2X_3X_4X_5$  (**SEQ ID NO: 142**);

*Please delete the paragraph on page 48, line 20 to page 49, line 5 and replace it with the following paragraph:*

Further, the polypeptide formed from an amino acid sequence which shows homology of 40% or greater with the amino acid sequence as set forth in SEQ ID NO: 98 in the Sequence Listing is characterized, in some cases, in that it is a polypeptide containing a region represented by  $X_1CXLC_1SC_2X_2X_3X_4X_5$  (**SEQ ID NO:**

**142)** (wherein C corresponds to cysteine, X to serine or threonine, L to leucine, C<sub>1</sub> to cysteine sulfinic acid (cysteine sulfinic acid·3-sulfinoalanine), S to serine, and C<sub>2</sub> to cysteine sulfenic acid (cysteine sulfenic acid·S-hydroxy-cysteine); and X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub> and X<sub>5</sub> represent arbitrary amino acid, respectively) in the sequence.

*Please delete the paragraph on page 49, lines 10-13 and replace it with the following paragraph:*

In the above-mentioned cases, the polypeptide is in some cases characterized in being bonded to a metal atom via the region represented by X<sub>1</sub>CXLC<sub>1</sub>SC<sub>2</sub>X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub> **(SEQ ID NO: 142)**. In addition, this metal is in some cases characterized in being cobalt.